

Wood &
Pest

Wood & Pest

The Imperial Bureau of Entomology.

Head Office at—

Director:
GUY A. K. MARSHALL, D.Sc.

BRITISH MUSEUM (NATURAL HISTORY),

CROMWELL ROAD, LONDON, S.W.7.

2nd July, 1919.

Dear Sir,

I thank you for your letter of 28th March, and for the specimens of flies which you have bred from beans. These insects undoubtedly belong to a species of Agromyza, but the material is in such poor condition, owing to the specimens having been preserved in spirit, that I find it impossible to identify them with certainty. I shall, however, be sending them shortly to Prof. Bezzi, and will let you know as soon as I hear from him about them.

I remain,

Yours faithfully,

Guy A. K. Marshall
Director.

J. H. Burkhill, Esq.,
Director,
Botanic Gardens,
Singapore,
Straits Settlements.

A Bean Pest. (Phaseolus lunatus), Rangoon bean.

-----&&&&&&&&&&-----

during the course of the Acclimatisation Experiments on beans, the progress of the same was and is seriously hampered with because of the pest. It was noticed in the nursery and in the block no.13 that the seedlings of the bean were --- wilting. On examination of the seedlings, it was --- observed that the injury was being done by a maggot like larvae/ and a fungus Rhizoctonia.

It cannot definitely be said which attacks the seedlings first. Thorough exam of the soil and the seedlings indicated that the attack was severe in those cases where raw and not thoroughly decayed manure was applied. (This was put just underneath the seedlings.)

The life history of the pest:---

The eggs are laid either on the decayed stem or in the soil. The tiny maggot comes out and begins its work on the plant. The larva commences the work from down the root and can be seen migrating up the stem and into the petioles. It is a soft creamy white legless larva turning brown in its later moults. (The simultaneous action of the fungus and the maggot pull down the seedling to the ground, the stem being --- exceedingly flaccid. Most of the rhizoctonia symptoms can be seen on the seedlings.

A few of the seedlings were lifted with a lump of soil --- ^{out} and put into a small earthen pot to work it's life history. The pot was enclosed into a cage. The larval period covers 10--15 days. They all formed brown closed cocoons wherever they were feeding.

The pupal period extends from 8--10 days.

The imago emerges out through either of the black tops,
---a cycloraphous fly--- The fly is very sluggish and does not care to move though disturbed. They were caught very easily. After emerging out, they either rest on the plant or on the soil, where eggs are laid.

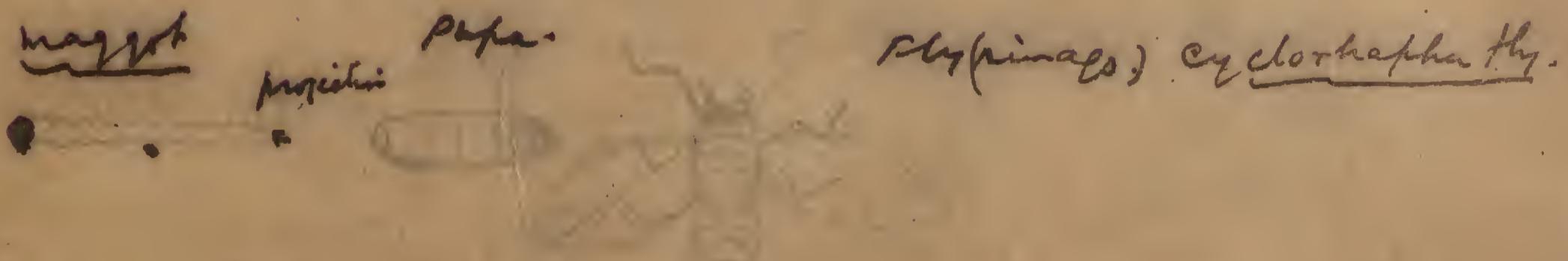
The effect on the plant:--- The maggot eats into the pith and the outer bark going up through the same. The part splits into due to the stimulation. Another outcome of the stimulation is the attempt of the plant to give out necessary roots either from the first internode or the second one. internode. The tap root does not develop to its normal size. The seedling expires within a few days.

The treatment :--- The asstt. Curator was advised to use soap water against the pest and to lift up the manure. For rhizoctonia the soil was disinfected with Napthalene.

Beans were sown second time in the same place, and it was observed that though the pest still did exist though the virulence was checked to a little extent.

The imago period.

Diagrams of the various stages of the insects



Botanic Gardens,

Singapore,

28th. March, 1919

Dear Sir,

I am asking you the favour of a determination for the little Anthomyiid-like fly sent by post herewith. There are two tubes of it, the larva and pupa in the second.

This little insect is attacking our experimental beans; and one of my assistants, Mr. G.B. Deshmukh, has worked out its life history thus far. The grub attacks the seedling bean boring down into the root or up into the stem and then into the petioles. At the same time a fungus is liable to develop and the seedling succumbs. After 10-15 days of larval life the grub pupates where it has been feeding and as a pupa lives another 8-10 days. The mature fly is not active. It looks for a mate and for a place in which to lay eggs more or less where it itself hatched. This suggests that it is a general feeder for beans are not common enough here to let a lazy fly entirely dependent on them persist.

Bean plants of some size which have the grubs in their pith feeding are liable to crack down the stem, and in the effort to carry on to throw out adventitious roots.

I am, Yours faithfully,

Director of Gardens, S.S.

The Director,

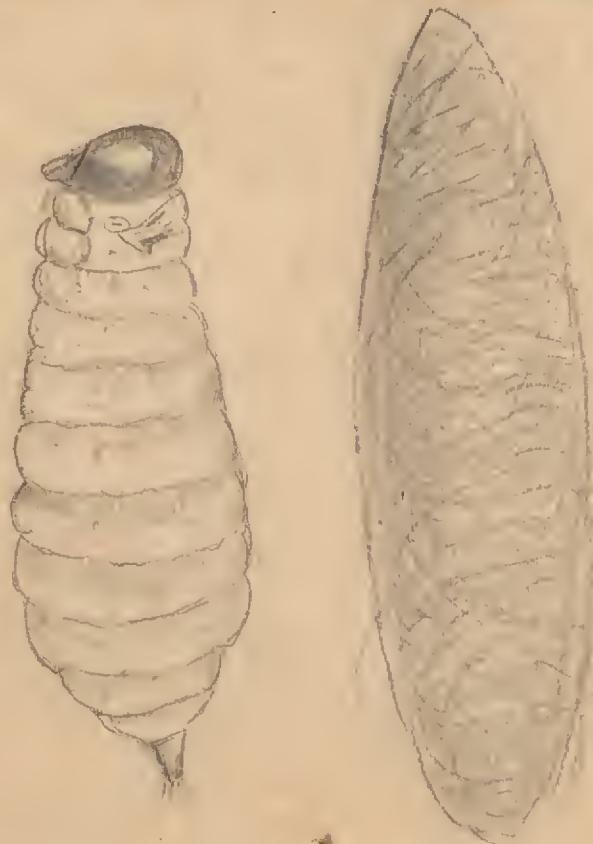
Imperial Bureau of Entomology,

Natural History Museum,

S.W.

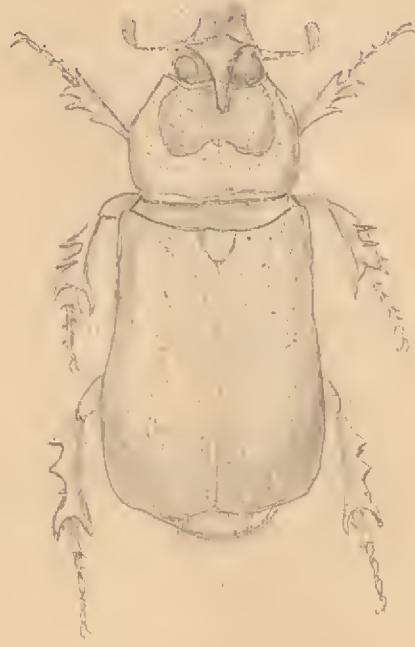
Have the plantation Gleotz in coprophilous
To same size for the second plate

Aluvol
11/7.

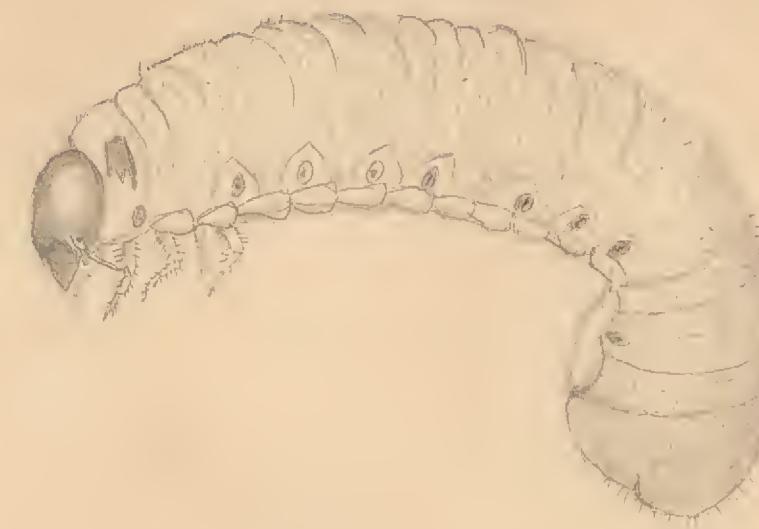


BB-5/7

Larva of *Stagmomantis*



Oryctes Rhinoceros



Larva of Oryctes



Platynophaenus formosanus

Beetles are all here
chiefly attacking
fruit trees.

TAPA,

PERAK.

Straits Settlements.

3 June 1899

Ridley Esq
Botanical Gardens
Singapore

Dear Sir

I am sending with this
a small box containing some small
brown beetles, which I have dug
up from the ground, around the roots
of some manjester & rambutan trees
in my plantation here. I have forty
acres planted with these trees, & the
peach number are continually having
all their leaves eaten off by some
insect, my "kabuns" say the beetle -
of which I am sending you specimens -
do all the damage, we can see nothing
actually eating them, it is done at night.

the bushes I send are found
in scores just beneath the
surface of the ground, beneath
the trees which are attached, In some

TAPPA,

PERAK.

Straits Settlements.

cases they have eaten all the leaves
from the trees, & they have consequently
died, but in any case the damage
is throwing the trees back considerably.
I shall be much obliged if you would
let me know whether in your opinion
these insects are responsible for this,
& if so, if you would give me any
advice as to getting rid of them I
shall be very grateful.

Yours faithfully

G. L. Bailey

SUMMARY OF HOME NEWS.

(London and China Express, AUG. 23RD.)

THE COURT.—The Queen is expected in Wales to-day. Elaborate arrangements have been made to give Her Majesty a very hearty reception. Lord Knutsford will be the first Minister in attendance on the Queen in Scotland. It is stated that the Queen has presented a life-size portrait of herself to Prince Bismarck.

PARLIAMENT.—No business of importance has been transacted in the House of Lords during the week. In the House of Commons the Tithe Rent Bill has been withdrawn. Considerable discussion has taken place over the Irish Estimates. A proposal was made to reduce the salary of the Chief Secretary, and lost by 82 to 112. The Irish Light Railways Bill has passed its third reading. The contract with the Canadian Pacific Railway Company for the conveyance of Her Majesty's mails between Canada and Hong Kong has been approved. Baron H. de Worms informed Mr. Hunter that, owing to the insufficiency of the revenue of Labuan to maintain an efficient Colonial Administration Her Majesty's Government had proposed that the Chartered British North Borneo Company should take over the administration of the island, which would remain a British Colony, and would not be ceded to the company.

GENERAL.—London has been agitated during the week by a serious strike among the London dock labourers, which is becoming more serious and more extensive every day. The movement is considered to be the most formidable one that has taken place in their body since 1872. Processions numbering some 10,000 men have paraded the principal thoroughfares of the City. The men demand sixpence an hour instead of fivepence, and a redress of their grievances in several particulars. The position of affairs at the various docks is serious. On one day, it was alleged, there was only one vessel loading. The dock companies express their confidence that the strike will collapse. The Home Secretary's decision in the Maybrick case is at last known. The sentence of death is to be commuted to penal servitude for life. In the official announcement on the subject it is stated that, although the evidence tends clearly to the conclusion that the prisoner administered and attempted to administer arsenic to her husband, yet it does not wholly exclude a reasonable doubt whether his death was in fact caused by the administration of arsenic. A strong opinion is being expressed in influential quarters that a Court of Criminal Appeal should be established, and Lord Esher suggests the lines on which such a court should be constituted. On the other hand, however, Lord Brumwell takes an opposite view to the Master of the Rolls. The Naval Manœuvres have again opened badly for Admiral Baird, who has lost three of his best ships to Admiral Tryon in an engagement off Cape Ushant. In other respects there is little of interest to record, so far as home news is concerned. Events in Ireland are not so startling, although a determined attempt has been made to shoot Mr. William Blood, a magistrate and a landed proprietor, but fortunately without any evil result. We are pleased to record while on the subject of Ireland the continued growth of the Irish woollen trade, which is undergoing a considerable revival. Lady Macaulay was summoned and fined for assaulting two of her domestic servants. It is not yet definitely decided that Mr. Chaplin is to be the First Minister of Agriculture. The name of Sir Matthew White Ridley is also mentioned in this connection. In foreign affairs we are pleased to be able to announce that the crisis in Crete, which has caused so much alarm in Europe, is now almost over, and affairs in the island are in a satisfactory way toward settlement. The position of England and Germany in East Africa has been prominently to the front again during the week. The tone of the meeting of the German East African Company was decidedly hostile to England, and a good deal has been written in the Continental Press on the subject. Queen Nathalie has postponed her visit to Belgrade, ostensibly on the ground of ill-health. Sanction has been given to a measure of the Canadian Parliament which is intended to put a stop to rings and trusts calculated to frustrate the legitimate movements of trade. Generally speaking, the European situation is unchanged. The Imperial visits which have recently taken place are regarded as having strengthened the probabilities of peace.

GERMANY.—The Emperor William has visited Strasburg and his reception has been marked by extraordinary enthusiasm. This hearty welcome is regarded as a proof that little by little the idea that Alsace-Lorraine is an inseparable part of the German Empire is gaining ground amongst the population there.

FRANCE.—The sentence of the High Court of Justice is the topic of discussion. General Boulanger has issued another manifesto, in which he expresses his confidence in the firm attitude of the electoral body. A grand banquet has been given by the municipality of Paris to the Mayors of France. The number of mayors who attended the banquet was 13,000.

HOLLAND.—The condition of the King is still favourable. The Second Chamber of the States-General has assembled. An arrangement has been come to between the Royal Packet Navigation Company and the Netherlands-Indian Steamship Navigation Company with regard to the service of steamers to Java.

UNITED STATES.—A warrant has been issued for the arrest of Justice Field, in connection with the shooting of Mr. Terry. The prize-fighter Sullivan has been sentenced to a year's imprisonment.

[AUGUST 30TH.]

THE COURT.—The Queen has at length paid her long promised visit to Wales, where Her Majesty has met with a most enthusiastic reception. The Royal visit seems to have given the greatest gratification to the people of North Wales. Her Majesty conferred the honour of Knighthood upon the Mayor of Wrexham. The Duke of Connaught, who returns to England next March, will travel home via China, Japan, and Canada.

PARLIAMENT.—The business of the Session closed yesterday, and Parliament will be offi-

cially prorogued to morrow. Large numbers of the members of both Houses have already left town. In the House of Lords a number of measures have been advanced a stage. In the House of Commons the Indian Budget has been presented, and, as is usual, discussed before a thin House. It presents no remarkable features. There is an improvement in the revenue in 1888-9 over that of 1887-8. Considerable savings have been made in the expenditure of the Civil Department. The usual resolution was agreed to. The Irish votes have been successfully carried. Mr. Balfour has created some sensation by pledging himself to what is practically the principle of concurrent endowment, which for generations has been the *bête noire* of the Liberal party. Sir H. Maxwell, in reply to Sir G. Baden-Powell, gave some interesting statistics regarding the quantity of mail matter despatched to the Far East by the present three routes.

GENERAL.—During the past week the strike amongst the dock labourers has assumed the most alarming proportions. It has spread in other directions, until considerably over a hundred thousand men have been affected. Fortunately, the crisis which threatened in the coal trade has been averted, the employers conceding the demands of the men. Prolonged conferences have taken place with representatives of the men and of the Dock Companies and wharfingers, with the result that the London and India Docks' Joint Committee state that all demands of the strikers might be arranged to the satisfaction of both parties except that for an additional penny per hour. The men, however, remain firm in their intention not to modify their original demands. In the meantime the trade of the port of London is almost paralysed. The P. and O. steamers for the time being have returned to Southampton, where several of them have been unloaded. An interview on the subject with Mr. T. Sutherland, M.P., the Chairman of the company will be found elsewhere. The strike is causing great excitement throughout the metropolis. In the midst of all these difficulties, public attention has been somewhat diverted from the mimic warfare which has been going on round our coasts. The encyclopaedia has not been idle. Aberdeen, Peterhead, and Leith have been captured by Rear-Admiral Darcy-Irvine under more or less exciting conditions, and in the absence of tangible foes some of the defending flotilla from Pembroke Haven have been involved in active hostilities against their own friends. War, however, has now ceased; but it is too early yet to speak of the general results, which on the whole, however, have not been unsatisfactory. The excitement about the Maybrick case has now subsided. What has become of the enthusiastic agitators who, on receipt of the news that the death sentence was commuted to one of penal servitude for life, were not going to rest content until a free pardon was obtained nobody knows. At any rate, they are silent for the present. Mrs. Maybrick has been removed from Liverpool to the female convict prison at Woking. The old truism, "Be sure your sin will find you out," seems to be especially exemplified in the case of the steamship *Mogul*, for both the first and second cook have just been convicted of smuggling. The two stewards of the vessel have already been convicted of a similar offence, and heavily fined. The death is announced of the V. V. Samuel Bean, a professor of Chinese in the London University. Mr. John Sanger, the famous circus proprietor, is also dead. A scheme has been set on foot for building a tower, similar to the Eiffel Tower at Paris, in London. Sir Edward Watkins is identified with the project. In foreign affairs there is little new to note. Mr. Gladstone has sent to the Press reliable information which he has obtained of some terrible outrages in Armenia. Affairs in Crete are quiet. The European situation is unaltered. England's attitude towards the Triple Alliance is the chief topic of discussion.

GERMANY.—The Emperor and Empress continuing their journey were received at Metz with an enthusiastic and popular greeting. Their Majesties have now returned to Potsdam. The visit of the Czar, it seems, is still a matter of speculation. Mr. Teindel, formerly a Deputy-Counsellor at Tientsin, has been promoted to the rank of a German Counsellor at Amoy. The German Ambassador for China is expected shortly to return to the East.

FRANCE.—The elections are fixed for Sept. 22. General Boulanger is to stand for Moutuartre. There has been some Boulangerist rioting at Paris, and a number of arrests were made.

HOLLAND.—The subject of the revision of the Education Code is occupying the attention of the States-General. A commission has been appointed to inquire into the necessary measures for the improvement of the navy in Netherlands India. The subject of the national defences is also to the front. Mr. S. B. Zeveryn, Director of the Netherlands Bank, has been appointed President of the Java Bank.

UNITED STATES.—Further seizures of schooners, both British and American, in the Bering Sea, by the revenue cutter *Rush*, are reported. A bitter feeling prevails at Ottawa on the subject. The United States and British Governments are said to be in negotiation, with a view to an early settlement of the difficulty.

MINUTES OF MEETINGS OF THE MUNICIPAL COMMISSIONERS.

MEETING HELD ON THE 23RD AUGUST 1889.

Present:—The Hon. C. W. S. Kynnersley (President), Captain Cameron, R.E., R. A. P. Hogan, Esq., F. M. McLarty, Esq., D. Comrie, Esq.

Absent:—C. W. Barnett, Esq.

1. The minutes of the last ordinary meeting and of the special meeting are read and confirmed.

2. The President lays on the table a letter from Government sanctioning the acquisition of the strip of land required to widen the entrance to Argyll Road, and proposes that steps be now taken to acquire the land, which is agreed to.

3. The President lays before the Council a letter from the trustees of the Chinese temple in Pitt Street, asking if the Commissioners will undertake to light two five-branch lamps

which they are desirous of erecting opposite the Temple.

Resolved "That it be first ascertained more exactly where it is proposed to erect the lamps."

4. The President lays before the Council a letter from Government on the subject of the proposed regulations for the granting of pensions to Municipal Officers.

Resolved "That the letter be circulated and brought up again at next meeting."

5. After some discussion as to the advisability of planting trees along Weld Quay, it is resolved that trees be planted along the quay 100 feet apart, care being taken not to plant them opposite the jetties.

6. The President lays on the table a map of the Municipality and after some discussion, it is resolved that no attaps be allowed in that portion of the Town marked yellow on the plan, and that along those roads marked red, no attaps be allowed within 50 feet of the road without special permission from the Commissioners.

7. The plan of the proposed pavilion to be erected on the esplanade by the Penang Recreation Club is approved, the site for the same to be as nearly as possible opposite the Penang Cricket Club pavilion.

8. The President lays before the Council a paper in which it is suggested that the corner in Larut Road opposite the Hutton Lane Police station be rounded off.

The Commissioners sanction the expenditure of \$50 for the rebuilding of the wall, provided Mr. Capel will give the small piece of land required.

9. The Commissioners sanction the expenditure of \$105.35 being the costs in a case against Mutusamy.

10. In accordance with notice given, Mr. Comrie moves that it is expedient in the interest of public health that regulations be framed by the Commissioners with a view to the effectual control of prostitution.

Mr. McLarty seconds the motion and addresses the Council.

The motion is then put to the vote with the result that two vote for and three against it, and the motion is thereupon declared to be lost.

After some discussion, it is, however, resolved to obtain statistics from the Health Officer as to the spread of disease since the repeal of the Contagious Diseases Ordinance.

11. The President lays before the Council a paper on the subject of the drainage of Green Hall, and it is resolved that the matter be referred to the "Works Committee" for report.

12. It is resolved to defer the further consideration of the papers regarding the drainage of Argyll Road until next meeting.

13. The Engineer submits design and estimate for the relaying of portions of the drains in Mautri Street and Cintia Street.

Resolved that tenders be called for this work.

14. The present lays on the table a plan of the district between Bridge Street and the sea, and Mr. McLarty having retired, the Commissioners decide upon the sites for the proposed four new ghants, the President intalling each site on the plan.

15. 12 plans are submitted of which 9 are approved, and 3 returned for amendment.

The Commissioners adjourned till Friday the 20th instant.

Read and confirmed the 20th day of Sept., 1889.

SPECIAL MEETING HELD ON THE 30TH AUG. 1889.

Present:—The Hon. C. W. S. Kynnersley, (President), Capt. Cameron, R.E., R. A. P. Hogan, Esq., and C. W. Barnett, Esq.

Absent:—F. M. McLarty, Esq., and D. Comrie, Esq.

1. The Commissioners pass, subject to the approval of the Governor, required under section CXVII of Act 14 of 1856, the following revised by-laws:—*"Every person caning a corpse to be buried in any Burial Ground, shall give to the owner trustee or person in charge of such Burial Ground the particulars required according to section CXI of Act 14 of 1856."*

2. Certain by-laws prepared under section 86 of Ordinance IX of 1887 relating to "Traffic in the Streets" and "the regulation of markets" are considered and passed.

Read and confirmed the 20th day of Sept., 1889.

SPECIAL MEETING HELD ON THE 18TH SEP. 1889.

Present:—The Hon. C. W. S. Kynnersley, (President), Capt. Cameron, R.E., F. M. McLarty, Esq., C. W. Barnett, Esq., and D. Comrie, Esq.

Absent:—R. A. P. Hogan, Esq.

Some by-laws prepared under section 86 of the Municipal Ordinance 1887 are considered and passed, and the consideration of the remaining by-laws is adjourned till Friday the 13th September, on which day a special meeting will be held for the purpose.

The Commissioners adjourned till Friday the 13th September.

Read and confirmed the 20th day of Sept., 1889.

Stories about the Shah are still filtering through. Until he went to Antwerp, his Majesty had never heard a barrel-organ. It so happened that an organ-grinder stopped under the royal windows, and began to drone out dismal air from the "Traviota." The Shah came to the window and listened with delight. The entire repertoire of the musical mill was gone through, and, as a supreme and Asiatic sign of satisfaction, a gold piece of 100fr. dropped at the feet of the organ-grinder. He immediately ran off to relate his good fortune to his companions in the trade—goodness knows there are enough of them at Antwerp! The next day they all assembled before the palace, and a discordant tempest of sound began. The "Cloches de Corneville" and the "Massecott" struggled for the supremacy, and the "Brabanconne" tried in vain to accord with "En revenant de la Revue." But this time no more gold! The servants at the palace had to make a regular sortie against the disappointed musicians.

B85/11

SINGAPORE NEWS.

(Straits Times.)

The banks have closed their purses both to the Chinese firms and to the Chitties. The latter are understood to have remonstrated in a body some fifty strong—*tabulih*.

Messrs. Drew and Napier, solicitors for the official liquidator of the Rawang Mining Co., give notice of his appointment. All debts due to the company are payable to Mr. Hornby.

(Free Press.)

The heavy rain of this morning, (Sept. 18) almost continuous for five hours, swept clear all the *debris* from the drains and will leave them as clean as may be. The storm water was more than the drains could carry off in the lower parts of the town—Middle Road and behind the Central Police Station. At Tanjong Pagar Road the roads were covered deep enough to stop the trams, while the Esplanade was a perfect swamp, and in the exposed roads the granite was well nigh denuded of its "packing."

MALACCA NEWS.

(Weekly Chronicle, 14TH INST.)

Sir Charles Warren, Mr. Justice Goldney, and the Hon. Mr. Adamson are expected to arrive here shortly to hold an enquiry into the condition of the Police Force in our Settlement.

Ban Seng, the Chinese Interpreter lately employed in the office of the Superintendent of Police, has been prosecuted on a charge of embezzlement. The case will be heard some time next week, we believe.

The Resident of Selangor and two Chinese towkays went to Singapore this week to make offers for carrying on the Rawang mines. It appears that the Bank of Kwala Lumpur has advanced money, under guarantee, to prevent the loss of the concession.

There is a rumour current that another change will shortly take place in the chief-clerkship of the Post Office. We are sorry to hear that Mr. d'Oliveiro, who seems to be a smart man at his work, is likely soon to leave us. These frequent changes can only do harm to the department, and we hope the rumour is an idle one, as so many rumours in Malacca usually are.

FAMOUS CONVICTION ON CIRCUMSTANTIAL EVIDENCE.

Here (says the *London New-York Herald*) is a series of celebrated convictions, based upon circumstantial evidence, in each of which the guilt of the prisoner seemed clear as day, and yet all of the convicted persons suffered wrongfully. In the year 1721 there resided in Edinburgh a certain William Shaw, whose daughter, Catherine, had conceived a passion for a person to whom the father strongly objected, and, more, he wished her to wed the proverbial "another." Frequent quarrels were the result, and, as a sequence, the father locked his daughter in her room. The neighbours frequently heard violent language on the part of both father and daughter; and when, at last, one day the words "cruelty" and "death" were shouted and groans afterwards heard, they determined to break open the door. This was done, and Catherine Shaw was found weltering in blood. As the persons entered she was heard faintly to exclaim, "Cruel father, thou art the cause of my death!" saying which he expired. William Shaw entered at this moment. Horror-stricken at his daughter's fate, he stood speechless, and his emotion was taken for guilt. Moreover, the sleeve of his shirt was stained with blood. He was tried, sentenced, and executed at Leith Walk in November 1721. In August 1722 a man who had taken possession of the rooms occupied by Shaw found the following letter:—*"Barbarous father, your cruelty in having put it out of my power ever to join my fate to that of the only man I could love, and tyrannically insisting upon my marrying one whom I always hated, has made me form a resolution to put an end to an existence which has become a burden to me. I doubt not I shall find mercy in another world, for sure no benevolent being could require that I should any longer live in torment like this. My death I lay to your charge. When you read this consider yourself as the inhuman wretch that plunged the murderous knife into the bosom of the unhappy Catherine Shaw." The handwriting of this letter was recognised, and, as some sort of poor compensation, the body of Shaw was taken from the gibbet and decently interred, whilst a pair of colours were waved over his grave in token of his innocence.*

A revolting case of murder for "witchcraft" comes from the New Hebrides. While the Government agent and the recruiter of the labour barque *Vautilus* were pulling along the beach off the island of Santo on May 26, they saw the body of a native tied hand and foot to a tree. They found upon examination that he had been shot, and afterwards apparently hacked and mutilated by the whole tribe to which he belonged. Upon making inquiry into the matter they were informed that a disease causing great mortality had lately visited the island, and this particular native, having been unfortunately for himself a professor of witchcraft, the epidemic was popularly attributed to his machinations, and it was therefore thought advisable to effect his removal.

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REUTER'S TELEGRAMS.

London, 19th September, 1889.

A stringent Anglo-Italian anti-slave trade convention has been signed in London. Slavers are to be treated as pirates. The Mediterranean alone is excepted from the operation of the convention.

London, 22nd September, 1889.

The disputes between the dock companies and the strikers is now settled.

Private negotiations are proceeding relative to an offensive and defensive alliance between Servia and Montenegro.

London, 22nd September, 1889.

H. M. Gunboat "Lily" has foundered off Newfoundland. Seven of the crew were drowned.

Lady Sandhurst and the Right Hon. James Stansfield, members of the Home Rule party in Ireland, have received the freedom of the city of Dublin.

Pinang Gazette.

TUESDAY, 24TH SEPTEMBER, 1889.

HYDROPHOBIA.

SINCE we last wrote about hydrophobia two fresh cases have occurred in Singapore, and the alarm in that island is becoming general. The newspapers have contained both articles and letters on the subject, and Major McCallum has given notice of a resolution at the Municipal board. What the nature or terms of it will be we do not know, but from the manner in which Major McCallum usually deals with a subject, we imagine the motion will contain proposals of a drastic nature. It seems to us that only the most comprehensive and drastic measures will be of any use. The time when half-and-half measures would have been sufficient has been allowed to pass; the disease has got a thorough hold on the place, and a strong remedy is required.

The *Straits Times* proposes a course which is but a modification of what we have already advocated in these columns. We advocated the extermination of all the dogs in the island. The *Straits Times*, while adopting the principle that Singapore must be cleared of dogs, suggests that all those who wish to keep their dogs should send them out of the island to some place where they would be kept under Government supervision, but at the expense of their owners, for six months, and that during that period no dog should be allowed to land in Singapore—in fact that for six months no dog should be allowed to live in Singapore. This seems to us both a reasonable and practicable proposal. It gets over the objection that many people have to the indiscriminate destruction of dogs, and gives owners who are really attached to, or value their dogs, the opportunity of saving them, and ultimately getting them back, without risking the safety of the public. There are certain owners of pet dogs, principally Europeans, who say that such steps are unnecessary; that the proper plan is to raise the tax on dogs, and destroy all dogs whose owners did not pay that tax. Such a proposal should not be entertained.

We would call attention to a letter published in another column from Mr. C. F. deMornay, the Manager of Malakoff Estate, on the subject of coconut beetles. It will well repay perusal.

Mr. A. W. O'Sullivan, formerly District Officer at Balik Pulau, is now acting in Singapore for Mr. H. A. O'Brien, Postmaster-General, who went home on sick leave by the last mail steamer.

The *Singapore Free Press* says that Mr. William Macbean, assistant secretary of the Straits Insurance Co., is only a pet, or at best a ratter, would

be allowed to live; and this notwithstanding the fact, that some, at least, of the deaths from hydrophobia, have occurred from the bites of pet dogs. Any law that is passed must be one that will not of necessity reach only the poor and exempt the rich. Besides, anything short of the total clearance of the island for a time will be at best uncertain in its result. To kill all the pariahs and the dogs of those who could not

pay a very high tax, and allow the others to live in Singapore, would

mean that the remaining dogs could not be watched, or would not be under direct professional supervision; whereas, if all the dogs for which a certain fee had been paid, were sent to some place—one of the small islands near Singapore, for instance,

—where they were all together, and could all be under professional eyes for a long period, there would be every chance of rabies being stamped out. The matter

has reached proportions so alarming, and is of so serious a nature, that all the merely sentimental considerations, that come into the relations between a man and his dog, should be ignored. The one sentiment, and the only sentiment, that ought to be considered, is the safety of the public, and that can only be attained by a scheme on lines such as that proposed by the *Straits Times*.

The more drastic scheme which we advocated would be unnecessary if such a scheme as that put forth by our Singapore contemporary were thoroughly and efficiently carried out.

So far as Penang is concerned we hope our authorities will take every precaution to prevent the introduction of hydrophobia here. Every dog from Europe should be kept at least a fortnight under supervision and in quarantine before being allowed to land; and no dog from Singapore or the East should be allowed to land on any pretence whatever, without undergoing a quarantine of six months. The disease often takes even a longer time to appear after it has been contracted by the bite of another dog; and six months is therefore not too long a period to quarantine dogs coming from a place so thoroughly impregnated with rabies and hydrophobia as Singapore. We have not suffered from this terrible disease yet; and it behoves us to take every precaution to prevent its introduction among us.

DOMESTIC OCCURRENCES.

DEATH.

At Kualla Kangsa, of fever, on the 19th September, CHARLES T. WIGHT, of Kamuning Estate, Perak, late of Ceylon. Ceylon papers please copy.

BIRTH.

At Dunbar Hall, on the 22nd instant, Mrs. F. M. McLARTY, a son.

LOCAL AND GENERAL.

The mail which was despatched via Negapatum on the 25th ult. was delivered in London on Friday, the 20th inst.

The outward bound P. & O. mail steamer *Peshawur*, with the mails from Europe, arrived here on Sunday morning, and left again in the evening.

Sir Charles Warren, one of the members of the Police Commission, returned to Singapore by the P. & O. mail steamer *Peshawur* on Sunday.

We would call attention to a letter published in another column from Mr. C. F. deMornay, the Manager of Malakoff Estate, on the subject of coconut beetles. It will well repay perusal.

Mr. A. W. O'Sullivan, formerly District Officer at Balik Pulau, is now acting in Singapore for Mr. H. A. O'Brien, Postmaster-General, who went home on sick leave by the last mail steamer.

We note that among the numerous applications for the post of assistant overseer in the Scavengers' department is one from Mr. Bartlett, our local undertaker. It is evident from this that,

going to London to take charge of the company's London office. Mr. Macbean was formerly Acting Assistant Postmaster-General here.

We regret to hear that M. J. K. Birch, Magistrate and Senior District Officer at Butterworth, Province Wellesley, is in bad health. He has been granted three months' vacation leave, and will shortly proceed to England. Mr. A. H. Capper, District Officer, Bukit Mertajam, is now doing Mr. Birch's work in addition to his own.

According to the *Singapore Free Press*, the provisional three years' leases for four concessions in Landak, Western Borneo, were received in Singapore on the 19th instant. They are the property of the Landak Prospecting Syndicate, registered in Singapore as a limited liability company.

On the arrival of the homeward bound P. & O. steamer *Rohilla* on Thursday night, four Chinese were handed over to the harbour authorities here. The captain reports having seen the men on his way from Singapore clinging to the wreck of a tongkong, and picked them up. They stated that they belong to Malacca, and have since been despatched to that place.

The *Straits Times* reports another death from hydrophobia. A Kling barber, who was bitten by a dog in the Serangoon district about a month and a half ago, died on the 14th instant from the effects of the bite. Another man who was bitten by the same dog, and at the same time as the barber, is now under treatment. The dog was killed some time after the occurrence.

We learn that on the 28th of last month, a human skeleton was found in the jungle about three miles from Pryo Estate, Province Wellesley. Notwithstanding the enquiries since made by the police, all that can be ascertained about it is that it is the remains of a male Mongolian. What caused his death the medical authorities cannot say; neither has any clue to his identity been discovered.

At the Assizes on Friday, before His Honor Mr. Justice Goldney, Khoo Cheang Chong, late cashier of Messrs. Boustead & Co., was charged with, 1st, using as genuine a forged document; 2nd, forgery; 3rd, dishonest misappropriation; and 4th, criminal breach of trust. On his arraignment the prisoner pleaded guilty to all the counts, and was sentenced to fifteen months' rigorous imprisonment.

The *Ceylon Observer* says regarding the Coconut Beetle Bill:—"The object sought is very desirable, but we doubt if it can be attained by the heroic legislation proposed, and the sanction of which by the home authorities we doubt. The law is open to the objections that it might be used as a means of oppression, and that, if strictly enforced, the keeping of manure heaps for the fertilization of lands will become impossible."

With reference to the case of the Chinese who obstructed certain police officers and chin tangs when they were going to execute an excise warrant at Bukit Chroh Tohkoon, in Province Wellesley, on the 9th instant, we are informed that eight men were arrested and brought before Mr. Capper on Thursday last, when one was sentenced to three months' rigorous imprisonment with a fine of \$50, and two others to one month's imprisonment each. The rest were discharged. Those who were convicted have since engaged counsel to review the evidence in the case, to see if he would not advise an appeal.

The s. s. *Thai Peng* which arrived from Port Weld on Friday afternoon, very nearly ran against the bank between the Fort and the old jetty. She was entering the roadstead at full speed, and owing, it is believed, to her having taken too sharp a turn, made straight towards the bank. Confusion among the sampans and other small craft ensued, all making way for her in great haste. Nearer and nearer she came, and a catastrophe seemed inevitable. Just, however, about a few yards from the shore, she swung round, and passed within a few feet of the jetty, to the inexpressible relief of all the passengers on board, as well as the people on shore.

We note that among the numerous applications for the post of assistant overseer in the Scavengers' department is one from Mr. Bartlett, our local undertaker. It is evident from this that,

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Notice to Correspondents.

All literary matter for this paper should be sent to THE EDITOR.

All advertisements and business communications should be addressed to THE MANAGER.

Post Office Orders and Cheques should be made payable to THE PROPRIETOR, *Pinang Gazette*.

EXCHANGE.

PENANG, 23rd September, 1889.

RATES CLOSE AS FOLLOWS:		
London Demand Bank	3/0	dollar.
Do. 4 months' sight Bank	3/1	"
Do. 6 " " Credits	3/2	"
Do. 6 " " Documentary	3/2	"
Calcutta, Demand Bank	Rs. 225 $\frac{1}{2}$	"
Do. 30 days' sight Private	230	"
Bombay, Demand Bank	225 $\frac{1}{2}$	"
Do. 30 days' sight Private	230	"
Madras, Demand Bank	224 $\frac{1}{2}$	"
Do. 30 days' sight Private	230	"</

what with the general healthiness of the place and our hitherto complete immunity from hydrophobia, Mr. Bartlett finds his peculiar trade anything but paying, and is anxious to obtain more steady employment. As a matter of expediency he should have support of some kind or other from the community, in order that we may always have one of his profession in our midst; but whether the Municipal Commissioners will care to have under them a man who will be ready at a moment's notice to take their measure, is a question we are not prepared to answer.

A European named Lawton appeared before Captain Bradbery, Harbour Master, on Saturday morning, charged by Captain Madge of the telegraph steamer *Recorder* with misconduct on board the steamer on her way to this port from Singapore. It appears that Lawton was shipped as third mate in Singapore on the 19th instant, and on the same day the vessel left for Penang. About eight o'clock that night, after the first watch was set, he raised a false alarm of fire, and afterwards disturbed the ship's company by singing. In the opinion of Captain Madge the man was not in his right senses, and liquor had made him much worse, for a bottle of whisky was found in his cabin. After hearing the captain and the chief officer, Lawton was ordered to be dismissed at once.

SECRET SOCIETIES IN JAVA.

The *Straits Times* says:—Chinese secret societies have taken root in Java. The *Java Bode* of the 14th instant admits as much. Several of these organisations have been started at Sourabaya. They are mutually hostile, and strive to do each other as much harm as possible. The local Chinese headmen glaze over the matter, but rumour has it that these societies are branches of those at Singapore and Rho.

SUICIDE OF THE BAGAN AJAM MURDERESS.

A most determined suicide was committed at about noon on Saturday in the female ward of the Criminal Prison. In the absence of the matron upstairs for a little while, the Malay woman who was to be tried at the present assizes for the murder of a boy at Bagan Ajam, in Province Wellesley, obtained access to the kitchen, where she took a knife, cut her throat nearly from ear to ear, and died before any alarm could be raised. An inquest was held by Mr. Neubronner on the same day, when a verdict of suicide was returned. The matron has since been suspended from duty.

LAWN TENNIS TOURNAMENT.

PENANG CRICKET CLUB.

The following are the results of the third ties played off since Wednesday last:—

THURSDAY, 19th SEPTEMBER.

SINGLE HANDICAP.

F. O. Hallifax	beat	R. Yeats
R. C. Petherbridge	„	E. L. Brockman
F. E. Jago	„	W. Egerton
E. H. Barratt	„	G. E. Cole
A. G. Wright	„	A. L. M. Scott

FRIDAY, 20th SEPTEMBER.

DOUBLE HANDICAP.

R. C. Petherbridge	beat	H. Scott
G. F. Adamson	„	A. Durler

"THE CHINESE CLUB" GAMBLING CASE.

The case against the seven men, Soh Hoo, Cheng Guan, Khoo Boo Koi; Ali Taw, Lee Sean, Ong Choi and Lim Kap, and the woman, Khoo Ut Im, who were arrested in "The Chinese Club" in Macalister Road, at one o'clock in the morning of the 12th instant for alleged gaming, came on for hearing before Mr. Kyshe, acting second magistrate, on Thursday, and was concluded on the following day. The prisoners were severally charged with gambling in a common gaming-house, and pleaded not guilty. They were defended by Messrs. Van Someren and Wreyford, chief inspector Drum prosecuting. The evidence for the prosecution went to show that at the time the police rushed upstairs, there was some noise heard as of persons running about. In one of the rooms were found a lamp, sixteen stools, mats, two *pohs*, some *cheekee* cards, and money in silver and coppers amounting to \$86, all of which, it was argued, raised the presumption of gambling under the Ordinance. Soh Hoo was arrested at the door of the room with a sum of money in his hands; Cheng Guan (Khoo Sim Huan) it ought

(to be) and Khoo Ut Im, his mistress, were arrested in the hall; and the other defendants in different parts of the house. The police, however, differed greatly in their recollection of facts, and the contradictory statements made by each as he was examined with respect to what he observed was the occasion of much laughter and amusement. Two of them said they saw a number of men running out of the room at sight of the police, whereas inspector Drum, who rushed upstairs first, saw nothing of the kind. Some account books which were found in an iron safe in another room and seized, were also produced, from which a few entries were taken to shew that they related to gambling, but they failed to support this theory. The case for the prosecution having closed, Mr. Van Someren addressed the bench. He said the case against the defendants was very weak and the police knew it. After dwelling at some length on the various contradictions in the evidence given on behalf of the prosecution, he observed that there would have been no case at all but for the gaming appliances found in the room, the presence of which he explained. The *cheekee* cards, he said, might be found anywhere, just as cards might be found in every house without having any connection with gambling. In the Lye Kun case similar cards were found, but the game that was played was dominoes. The two *pohs* were without the dice, and without it the game cannot be played. It is usual to play it on mats with certain marks on them, and not one of those produced bore marks of that particular kind. Nor was it shown that *poh* must be played with *cheekee* cards. The money belonged to Khoo Sim Huan. The evidence as to the noise heard of people rushing could not, in the present case, raise the presumption that defendants were gambling at the time, as the entry was not made by a justice of the peace; such presumption would be raised under the old, not under the new, ordinance. The defence was briefly this. The defendants were not gambling as alleged. With the exception of Khoo Sim Huan, Khoo Boo Koi and the woman, the rest are servants of the club. The former is a member of the club, and at the time the police went, was about to pay his mistress in the room in which the money was found. Khoo Boo Koi is the brother of Khoo Boo Ann, and lives in Province Wellesley. Though not a member, he was in the habit of sleeping there at night at the club whenever he came to Penang. Evidence was then called to prove the above, after which the defendants were discharged.

THE MUNICIPALITY.

At the meeting of the Municipal Commissioners on Friday, the Hon. C. W. S. Kynnersley, (President), Captain Cameron, R.E., Mr. D. Condie, Mr. R. A. P. Hogan, Mr. F. M. McLarty, and Mr. C. W. Barnett were present.

The minutes of the last three meetings having been read, Mr. Barnett said he did not agree with the resolution come to by the Board at the meeting on the 23rd ultimo, at which he was not present, for the construction of four ghauts between Bridge Street and the sea, and asked the President to record his vote against the minute. He said his objection was to the way in which it was proposed to construct the ghauts, the burden of the cost of which would fall on the whole town, whereas, if the work were made to form part of the reclamation scheme, the cost would be borne by only that portion of the inhabitants who would derive benefit by the construction of the ghauts. He likewise objected to the undertaking of such a large scheme without having proper estimates before them. Mr. Barnett was informed that the question of constructing the ghauts had not been decided, and that the resolution was only for the acquirement of land for that purpose, in which case Mr. Barnett said he was entirely with the Commissioners. The minutes were then confirmed.

Mr. Barnett then asked, according to notice previously given, if the Northam Road drainage was being carried out in terms of contract as regards price. The Municipal Engineer was sent for, and it was ascertained from him that a modification in the plan made by the Works Committee had entailed the outlay of a larger sum than that authorized for the work. This was considered satisfactory.

The applications for the appointment of assistant overseer in the scavengers' department were laid before the Board. There were twenty-three in all, and it was resolved that they should be circulated, after which the candidates are to be ballotted.

The next subject was the erection of two

five-branch lamps opposite the Chinese temple in Pitt Street. The trustees proposed to erect one on the public road and one on the courtyard opposite the temple. After some discussion it was resolved that permission be given to erect the lamps, the one on the road to be lighted by the Municipality on condition that it be given up to them.

A letter from the superintendent of the fire brigade suggesting a bonus to police officers and men for working the fire engines was read. Mr. McLarty said that as the superintendent proposed a scheme, it required some consideration before they could decide the matter. It was therefore resolved that the papers be circulated and brought up at another meeting.

The President read a letter from the Resident Councillor, forwarding another letter from the Colonial Surgeon, in which the attention of the Board was drawn to the want of a mortuary in a central position in town, and suggesting the erection of one near the new Government buildings at Pitt Street. The Secretary was directed to refer the matter to the health officer for his opinion.

An application from the Clerk of Works for extra pony allowance or mileage for any distance travelled beyond the radius of seven miles was considered. The application was refused, but an increase of \$3 to his present, pony allowance, making it \$18 a month, was granted.

A letter from the Colonial Secretary was read calling attention to the filthy state of the lane leading to the civil dispensary at Chowrusta, and stating that it was the subject of a remark by H. E. the Governor on his last visit to Penang. Complaint had also been made by the apothecary in charge of the bad smell emanating from the compounds in the neighbourhood. The President said the road does not belong to the Municipality but to the Government, but after a discussion it was resolved to have it looked after by the scavenging department in future.

A paper about a house erected in Transfer Road contrary to plan was next considered. The engineer reported that the notice on the owner to have it pulled down had already expired without the request being complied with, and asked for instructions. It was resolved that the President should visit the place and see the house himself.

The report suggesting improvements to the town water supply, and that on waste of water in private houses, were postponed for the next meeting.

PASSENGER LIST.

—:—

ARRIVALS.

20th Sept.—Per s.s. *Thai Peng* from Port Weld, Mrs. M. Uoral, Miss Josephine Robless and Miss Lucy de Oliveira. Per s.s. *Kongsee* from Olehleh, Mr. R. Krujer.

Per s.s. *Lady Weld* from Taiping, Mr. Ashton and Mr. Mackay.

21st Sept.—Per s.s. *Teutonia* from Klang, H. Mahomed Ally and H. Abdullah.

Per s.s. *Lady Weld* from Taiping, Mr. Fraser and Mr. Cheng Hooi.

22nd Sept.—Per s.s. *Maha Vajirunkis* from Singapore, Messrs. J. N. Knight and Joo Beng.

Per s.s. *Peshawur* from London, Mrs. Smith; from Brindisi, Mr. J. A. Rigerinck; from Colombo, Mr. Hardy Innis.

DEPARTURES.

19th Sept.—Per s.s. *Lady Weld* for Taiping, Messrs. Scott, Keyt, Plumbe and Curtis.

22nd Sept.—Per s.s. *Peshawur* for Singapore, Major General Sir Charles Warren, G.C.M.G., K.C.B., Major Hamond, Messrs. J. A. Solomon, E. Dunlop, F. H. Hornby, R. H. Woodford, Mr. and Mrs. Kufahl, Mr. O. Richelmann, and Hajee Halimah; and for Hongkong, Mr. Heng Ali Hak.

CORRESPONDENCE.

—:—

COCONUT BEETLES.

(To the Editor of the "Pinang Gazette.")

Sir,—The proposed "Ordinance for the protection of Coconut trees from the ravages of certain Beetles" may seem to persons unacquainted with the causes of the great increase in the number of these insects quite unnecessary; but when they know how impossible it is for the owners of coconut plantations to prevent their property being destroyed by one of these beetles, they will, I think, acknowledge that the Government is acting wisely and justly in coming to their assistance. Though it may not be advisable for Government to protect or foster any particular branch of industry, it is only fair that it should step in to protect one threatened with destruction, through no fault or want of care on the

part of those engaged in it, but by the neglect of certain duties for which other people are properly responsible. These duties are the destruction, removal, or rendering innocuous of rubbish, trade refuse, &c., produced in their business or on their premises. As regards the draft ordinance published in the *Government Gazette*, I am of opinion that, in its present form, it would not have much effect in checking the ravages of the beetles, and that a more intimate knowledge of their habits is required before a suitable measure can be framed. The drastic remedy of cutting down all coconut trees attacked by beetles would cause serious loss to the owners without any appreciable benefit. If not trespassing too far on your space, I propose making some observations on the habits of these insects, which, I hope, will prove useful in suggesting means for reducing their numbers.

The Rhinoceros beetle (described as *Oryctes Rhinoceros* in the schedule to the proposed ordinance) is, I think, too well-known to need description here. It is by far the most numerous and destructive of these pests. Only the perfect beetle of this species attacks living coconut trees, the larvae or grubs living only in decaying vegetable matter. I mention below some of the materials that seem to be the most attractive beds for breeding these beetles:—

1. Paddy straw.
2. Paddy husk.
3. Coir refuse, rubbish from dustbins, bark, tan, saw dust, &c.
4. Cattle manure and stable litter.
5. Dead trunks of coconut trees.

Certain other kinds of refuse are said to breed these insects, but of these I cannot speak from personal knowledge. It is remarkable that the stems of the tapioca plant and the ampas (refuse from the roots) when rotten never breed these beetles. Whole coconut husks when heaped until quite decayed also prove unattractive. It is possible that by analysis Government might determine what it is that makes these substances unpalatable to the insects, and thus discover means of preventing their breeding in other refuse.

The beetle lays its eggs in some accumulation of moist and decaying vegetable matter where the larva, a whitish grub, is duly hatched, and lives until it attains its full size, about 2½ inches long and as thick as a man's middle finger. It then becomes a chrysalis of a light-brown colour, the forepart of which resembles the perfect beetle, except that the head, horn, wings, and legs are enclosed in a kind of casing. It still inhabits the refuse heap until the time for it to take its flight as a perfect beetle. The beetle leaves the place it was bred in always at night, and flying in the direction of the prevailing night wind reaches a coconut tree, alights on it, and proceeds to bore into a leaf near the butt; often boring through young unfolded leaves, which gives them the cut, ragged appearance so often seen after they unfold. The beetle sometimes passes the day in the hole it has bored, and, being unable to fly by daylight, is found by the coconut trees climbers, who extract it by means of a barbed needle. This plan answers well enough in keeping down the number of beetles on a plantation, if there are no large accumulations of rubbish or trade refuse &c., in the neighbourhood; but when this is the case, or the plantation is situated near a village, it is impossible to cope with the insects in this manner, and the trees rapidly sicken and die from repeated attacks. The only means I have found practicable, when these beetles become too numerous to be kept down by extracting them from the trees, is to search for and destroy the grubs in their breeding places, or to render these unsuitable for hatching and feeding them.

Paddy straw is a favorite breeding place when stocked in the usual manner, the grubs being found only in the layers nearest the ground, which are always damp and more or less decayed. I successfully prevented the grubs being bred in this by having the straw stocked on a platform of split bamboos, (nibongs or saplings) would answer equally well) sufficiently high to keep the ground underneath free from litter, and to allow for ventilation. Not a single beetle or grub ever bred in straw stacked in this manner, and it is a cheap and effectual plan of dealing with it. Indian cattle are chiefly fed on paddy straw, and their introduction here has caused the natives to purchase or collect it for that purpose. It is usually stocked near the cattle-sheds, and provides numerous large beds for breeding the beetles. Paddy straw is used largely at potteries and is usually stacked in the same manner. On

account of there being now a market for the paddy straw, the Malays often neglect to burn it off on their fields, as used to be customary, and the heaps left rotting there may also breed beetles. Paddy husk is another favorite breeding place, and should be burnt as produced, unless it is required for any purpose, when it should be stored in raised magazines. Near rice pounding establishments in Province Wellesley the coconut trees die in large numbers from the attacks of beetles. It is sometimes used at potters. Coir refuse, rubbish from dustbins, tan, bark, &c., are mostly difficult, if not impossible, to burn, and should either be thinly spread over adjacent land, or, as I would suggest, emulsions of Jeyes' purifier, carbolic acid, kerosine, Paris green, or some other insecticide might be sprinkled over the heaps with the idea of preventing the grubs from breeding in them. Cattle manure has to be heaped for some time in order to render it suitable for manure, and is too valuable to destroy by burning in agricultural districts. The grubs are usually found a few inches from the surface of the heaps, so they are easily discovered and destroyed; but I think it might also be treated in the way suggested for dealing with coir refuse, &c. Large numbers of beetles are bred in the stable litter at the homes of Europeans and natives in Penang, which must greatly increase their numbers. The beetles have no particular breeding season, but breed all the year round.

Red Beetle (?) named *Rhynchophorus Fenugineus* in the draft ordinance, is, I think, probably a variety of *Calandra Palmarum*. I have never found any of these beetles of a uniform red or orange colour as mentioned in Dr. Simou's report on coconut beetles. This beetle itself does no harm to cocoanut trees. It is the larva or grub that damages them. It has been generally stated that the beetle searches for wounds in the cocoanut tree, made by the coconut climbers with their knives, and deposits its eggs in them, but I think it more probable that it acts in a similar manner to other beetles of the same family, as, for instance, the corn and rice weevils, and itself punctures the holes where it deposits its eggs. It has been said that their rostrum is not sufficiently strong for it to do this, but in my opinion it is quite strong enough to punch a hole in the soft parts of the crown of the tree, which is probably much softer than a grain of corn or rice. The grubs are hatched in the pithy material, usually called the cabbage, through which the leaves sprout. They bore through this, and the soft part of the tree, in all directions, without, however, making any external wound. If not discovered they eventually kill the tree by eating through the base of the leaf spike, probably through their favorite food, the cabbage, having become entirely consumed. When a grub living in a coconut tree arrives at the time it has to change into the pupa or chrysalis state, it bores through the wood of the stem to the outside, near the top of the tree, and on the thickness of the wood manufactures a most wonderfully constructed cocoon from the fibres of the wood. In this it lies torpid until the time for it to emerge as a perfect beetle. This beetle, unlike the Rhinoceros beetle, flies freely by daylight. They are not very numerous here, and I have never known much damage to be done by them. On account of their habits little can be done to decrease their number, but for the same reason they are not likely to increase to any great extent.

It is not easy to know when a tree is attacked by these insects, as it shows no very clear sign of their ravages until the leaf spike falls, when the tree invariably dies. If the heads of the trees are frequently inspected by skilful beetle-searchers, many trees may be saved by cutting out the grubs, their presence being known by the searcher either finding a cocoon in the tree, or, more generally, by noticing slight wounds on the smooth skin (if I may call it so) of the leaf spike, which are unintentionally made by the grubs in eating the soft pithy mass through which it pushes its way. Several grubs and beetles are sometimes cut out of one tree.

I may mention that, some years ago, the coconut plantation belonging to this estate, was being rapidly destroyed by the ravages of the Rhinoceros beetle. Finding that increasing the number of beetle-searchers had no appreciable effect, I commenced searching for the grubs, and, at the beginning, with one coolie, used to destroy from 300 to 1000 in a day. By destroying them and preventing them from breeding in the paddy straw, they decreased rapidly in number, the plantation became healthy

again, and I found one beetle-searcher sufficient to keep the trees free of them. In my case I found it necessary only to search the refuse heaps to the eastward of the plantation, that being the general direction of the night breeze.

Yours faithfully,

C. F. DEMORNAZ,
Malakoff Estate, Province Wellesley,
September 18th, 1889.

THE SUPPRESSION OF HYDROPHOBIA.

A correspondent in Johore writes to the *Straits Times*:

I understand that Mr. Bentley has been stirring up the Council here to make defensive preparations against the inroad of dogs that may be expected when the legislation recommended in the *Straits Times* takes effect, and I expect that in a few days a law will be promulgated.

It is intended to be enacted that all pariah or ownerless dogs in Johore shall be killed, and that all dogs, without exception, on Pulau Liyang shall be so treated—that, I may explain, is the island where poor Parrington died of hydrophobia. Further, the importation of dogs into Johore is to be strictly forbidden; and even now Kranjie ferry is being watched and dogs will be turned back. After the law passes, dogs imported may be killed and the owners may be fined.

The reason of hurrying on the law is that Mr. Bentley urges that in anticipation of Singapore legislation dogs will be sent across here. Of course, as you know, the Malays don't like dogs in any case, so they are not averse to anticipate your proposed legislation.

THE BANKS AND THE CHITTIES.

(FROM THE *Straits Times*.)

At this moment nearly the whole of the Asiatic traders of Singapore are threatened with absolute stoppage of credit, and unless the situation be modified within the next day or two, there will be a crash of the most serious kind.

It is generally known that nearly all the Chinese traders, however well-established, habitually borrow large sums from the Chitties, and these, as we all know, borrow from the Banks on joint Chitty security. Hitherto this trade has been found by the banks to be both profitable and safe, but within the last few days advances to Chitties have been entirely refused, and the Chitties no

longer have been pressing the Chinese, who in many cases are obliged to retort, in effect, "There are our assets; we believe we can pay everybody, but we can't do so at once, and we can't go on at all if our customary financing facilities are stopped." And there the matter stands.

The Chitties allege that it is not a

case of stopping the credit of doubtful persons, but that advances to any combination are refused, and that propositions to lodge ample securities (as title-deeds and the like) are refused. It is

only from that point of view that the

matter can be said to possess a public

interest, for, clearly, bankers must make

themselves secure against loss, while

equally clearly the stoppage of cus-

tomy facilities, if such stoppage can be

avoided without loss, is a public injury,

and is against the understanding on

which banking business is done.

It is understood that the bank man-

agers are again to meet to consider the

matter, and it is to be hoped that they

may see their way to ease a situation

which seems likely to inflict a severe

blow on local trade.

The Chitty business has hitherto been very much in the hands of the Mercantile and of the New Oriental banks. The Chartered Bank ceased some considerable time ago to have any material share in it, and the Hongkong Bank never was heavily engaged in that class of business. All the banks, of course, are interested in preventing any general collapse which would incidentally injure nearly all their customers, and it would be in accord with European custom if they were all to take a share in mitigating the present pressure.

THE CHINESE CALENDAR.

Amongst the many things which the early Arab traders probably introduced into China was the knowledge of the Metonic cycle of nineteen years, which the Greeks adopted in their admiration of its use in rectifying the calendar called the "Golden Number." The Greeks adapted their calendar to Neton's system, and had their intercalary months like the Chinese; though the people of this country lay claim to have discovered the secret of the "Golden Number" long before. Their accounts of its antiquity, however, are not by any means convincing, and though they assert that it was in use before the age of Confucius and Mencius, we do not find it generally adopted till many centuries after the commencement of the Christian era.

Their explanation of this is that the system fell into disuse after the time of Mencius, when they discovered its fallacy. But they have no mention of any Chinese prototype of Callipus whose invention (named after himself) to correct the error of the Metonic system of chronology was based upon an erroneous theory of calculation. The Metonic system of nineteen years, or 6,940 days, which it takes for the lunations of the moon to return to the same day of the month, no doubt serves its purpose well enough, where the reformed calendar has not been adopted, but with the growing importance of the foreign trade of China, the inconvenience and absurdity of her present chronological style, with its perplexing intercalary months, are often felt, and occasionally give rise to serious mistakes, while the difficulties of calculation in matters between Chinese and foreigners are thereby greatly increased. It would undoubtedly be a step in the right direction, now that China has adopted telegraphs, steamboats with mining machinery and railways to some extent, which in the near future promise to be on a much larger scale, that she should also adopt the Gregorian calendar which is now in almost universal use. It is not a matter which is attended with the difficulties of such a scheme as romanising her language, and could be easily managed by the Imperial Astronomers in Peking who are intrusted with the compilation of the calendar. The old and the new systems could be easily arranged side by side for some years, till the people would become accustomed to the reformed style. At present the system is to give seven intercalary months in every period of nineteen years to make up for the difference between the tropical solar year of 365 235/940 days, and the time of twelve revolutions of the moon which is 351 592 940 days, or difference of 19 827 94 days in a year. Indeed the ordinary calendars in use amongst the Chinese at the present day are full of perplexities, absurdities, and misleading calculations, leaving out of consideration altogether the more purely astrological portion, which deals solely with lucky and unlucky days, and unlucky hours of each particular day, and the names of unfavourable winds, etc. We noticed recently that some Chinese firms here who print almanacs, give the foreign calendar on one side and the Chinese on the other, and every day the natives of the open ports, at least, are recognizing more clearly the disadvantage of their present system of chronology. All Chinese calendars are supposed to be compiled according to the Imperial Almanac, the *She Heen Shoo*, which in turn is largely dependent upon the "Book of Rites" for its miscellaneous information. A few specimens of this may be read with interest as affording an example of the Chinese knowledge of the seasons and their queer mingling of the practical with the superstitions. In the first month, it says, the East wind breaks up and melts the frost and animals begin to leave their torpid state, grasses, shrubs, and trees bud, and the otter sacrifices to the great ancestor of otters the first fish which he catches. In the second month come thunder and lightning, the peach puts forth blossoms, the swallows arrive, and the sun takes the shape of the wood-pigeon. The third month sees the *Wootung* tree in bloom; mice are transformed into pigeons, and slight slights on the mulberry trees, wild doves shake their wings, and the rainbow is first seen. In the fourth, the wheat ripens, and the mole cricket cheers us with his merry chirps; while in the fifth month, the mantis begins to fly, and the butcher bird calls. This is the time when the stag sheds his horns. In the sixth month fire-flies are evolved from the decomposing grasses, and the winds are warm all day. With the seventh month come cool winds, and the grain ripens under the evening dews. In the eighth month, swallows seek the south again, and wild geese fly overhead at night, the worms close up their earth holes with clay, and thunderstorms visit us no more. In the ninth month, sparrows are transformed into oysters (?) insects become torpid, the mosquito does not bite, and chrysanthemums blossom. In the tenth month, pheasants fly to the sea, where they take the form of oysters, the rainbow is seen no more, and the frosts begin. Worms make holes and fountains move over the land in the eleventh month, while in the twelfth we find that "pheasants call" (after being transformed into oysters), and the falcon goes northward. Surely the Chinese calendar wants a Gregory or a Julian to take it in hand. *Mercury.*

not far distant when her enemies will be busy despiling her of her territory." If a sufficient degree of fright can only be got up in the minds of the Celestial rulers, the introduction of the iron way into China will not be long delayed, and the intolerable amount of talk with which for the last two years we have been regaled may resolve itself into action. Certain it is that, save under pressure of self-defence—or what the wiseacres of Peking believe to be such necessity—the railway would not have been tolerated on the sacred soil of the Central Kingdom for decades to come. The Muscovite bugbear will serve a good purpose if it compels the conservative rulers of China to adopt the great pioneer of material progress in defiance alike of tradition, prejudice, and self-interest.

GLEANINGS.

No one need be surprised to hear in the course of a few weeks, says a home paper, that Prince Albert Victor has been created Duke of Clarence.

Mr. Edison has been interviewed in Paris, and has let fall two or three bits of information worth noting. He has actually in hand an invention which he believes will enable people talking over short distances by wire to see one another. Satisfactory results have already been obtained at distances of 1000 feet.

The Supreme Court of California has just decided that under the code of that state, a child born out of lawful wedlock, if recognized by the father as his child, is to be deemed legitimate from birth for the purpose of inheritance, even when not received into his family. This is a human view of the subject.

According to the *Liberte*, a sea monster, such as no fisherman has ever seen before, has just been stranded on Bancals rocks, situated to the west of the island of St. Honorat, near Cannes. A man was fishing on the rocks when he saw at a distance of about 50 metres an enormous fish of an extraordinary form floundering in the shallow water. This creature measures five and a half metres long, and is five metres round the thicker part of its body. It had a beak resembling that of a parrot, and two horns on its head; its eyes were at a distance of one metre from the extremity of the beak.

New York has received a severe shock by the tragic and unaccountable suicide of Miss Lilian Damont, the young and beautiful daughter of Mr. Damont, one of the leading stockbrokers in that city. Miss Damont has been passing the summer at Glenhaven, a quiet seaside resort, and up to the moment of her death was apparently in good health, and thoroughly enjoying the pleasant life of a young, rich, and beautiful woman. On Wednesday week she went to a ball, and returned home in the early hours of Thursday morning. Her maid left her in her bed-room alive and well. Next morning her corpse was found lying on the floor of the room. She had been dead for some hours, and had taken her life in a most unusual and determined manner, by strangling herself with the lace string of her corset. Her relatives and friends are at a loss to account for the suicide.

Much uneasiness is being caused to persons whom the Shah recently honoured with Persian dignities by ugly rumours that these decorations have been bestowed with a lavishness which destroys all their value. It is even reported that minor tradesmen are among the fortunate recipients of these orders, and some sensation was caused the other evening at a well-known place of amusement by the appearance of the green ribbon on the bodice of a *premiere danseuse*. A great deal of scandal arose in Vienna a few years ago by the discovery that a Persian kept an agency there for the sale of orders of the Lion and Sun, and a price-list, issued by an English house, gives the names and market value of some five hundred orders of knighthood, academical honours, memberships of various learned societies, &c., among the orders being that of the Lion and Sun, which was to be had for £500.

In an article on "Blindness and the Blind," in the current number of the Journal of the Franklin Institute, Dr. Webster Fox refers, among other things, to the need for care being exercised with regard to the eyes of young children. The eyes are more sensitive to light in childhood than in adult life, yet a mother or nurse will often expose the eyes of an infant to the glare of the sun for hours at a time. Dr. Webster Fox holds that a serious evil may spring from this, and he even contends that "greater number of the blind lose their sight from carelessness during infancy." From the point of an oculist, he protests against the notion that children should begin to study at a very early age. He thinks that until they are between seven and nine years old the eye is not strong enough for school work. When they do begin to learn lessons, they "should have good light during their study hours, and should not be allowed to study much by artificial light before the age of ten. Books printed in small type should never be allowed in schoolrooms, much less be read by insufficient light."

Singapore, 20th November 1892.

Dear Mr. Ridley,

Thanks for your note of 24th. I have delayed answering it as I wished first to read up the Government Ordinance. You say the Government grant for cutting down trees is so small that it has been used up.

I now give you power to fine a man \$5 for every tree he declines or neglects to destroy. This alone should put you in funds.

See clause 6. "The Governor may by a written compensation to persons in every circumstance, such compensation shall not exceed \$5 for each tree and that the compensation given in one year to any one person shall not amount to more than \$100". This should be enough to pay all expenses.

Writing to you again, you say you are allowed one overseer & one cook for the whole island?

It is absurd to think you can work with such a staff! I have had this month to cut down 90 trees most of them being eaten by the red beetle. How could you ever realize so that and carry the tops up into the sun? It is undoubtedly wrong on handiing that I should suffer through other people's neglect. If your mind will look at Kawa: the 375 on the Gaoleng Road he will find many trees which should be cut down and there are numbers of others. The natives do not realize that when once the red beetle has attacked a tree nothing can save it, they try to clear & clean it as they would for a black beetle eaten tree the when the tree dies the beetle has already gone elsewhere to seek work of destruction.

I would still ask you to put Mr. Comer's proposal before the Governor as there is not the smallest doubt but that if stringent measures are not taken ~~and~~ I believe that it will be beyond remedy and in a few years all the plantations will be practically cut up.

Betel nuts. As coconuts will not grow where I have cut down, I propose trying betel nuts is there any particular kind you would recommend or is there any other fruit tree you think would do down at Tanjongkating & would be remunerative?

Sawmills. One near the Garaworks does not appear to be burning or consuming his sawdust, it seems to me to be accumulating.

If you will truly,

L. Comeran.

Coffee beetle

BEAUMONT

KLANG,

29th December 1896

SELANGOR.

H. H. Ridderley Esq

Director Botanical Gardens

Singapore

Dear Sir

I am sending you per S.S. "Sappho" a specimen of grub found in my new Coffee clearing it is killing a good many of my Coffee plants. It begins by eating all the side feeding roots & finishing by eating the tap root. I also send you a few Coffee plants which which the grub I now send you were busy eating. What is the name of them, Can you give me any information about them & by what means can I destroy them? As I fear they will do a lot of damage amongst my coffee. I shall be glad to have any information that you can give me, Sorry to give you so much trouble

Yours truly
W. Greig

BRITISH MUSEUM (NATURAL HISTORY),

CROMWELL ROAD,

LONDON: S.W.

Aug. 16th 1857

Dear Ridley,

I received your
little box with Melolonthidae
from Coffee. [The label has not
yet reached me: perhaps some
post-officer will bring it down
with enquiries as on a former
occasion]. The beetle is a species
of Sericia, not in our collection
& probably not described. The
genus is a very extensive one &
the species exceedingly difficult to
determine as I cannot attempt

to work it out.

The larvae probably live at the roots of grass, but might be at the roots of the coffee itself: the former is more likely. It would be something like this: white, (3) with a yellowish head. The perfect beetle I should imagine (judging from European species) would only be about a short time.

Believe me,

Yours sincerely,

Chas. G. Waterhouse

C. G. W.

~~Certifikat~~
BALGOWNIE

BALGOWNIE ESTATE,
KAJANG,
SELANGOR.

189

BALGOWNIE ESTATE,
KAJANG,
SELANGOR.

29th April 1899

A. H. Ridley Esq.
Director
Botanical gardens
Singapore

Dear Sir

Thanks very much for your letter
and instant with information as to
methods of dealing with the coffee killer.
I am alone practically mid-officer
and hope never to see them again.

I got a number of javanees on
to assist in clearing out the coffee hills,
after all the east of plant were cut down
burnt by that time, some of them
being at once re-organized by the
lives the same cheerful and efficient.
The most effective method
dealing with the coffee killer was when
occurred small fires all through the
coffee where they were and when the
small fires suddenly increased
the fire caused them to fall off in bunches
to the ground where they were
by broodles & burned by the fire, but I
saw damage to the coffee by the fire.

Yours faithfully
A. H. Ridley

W.P.A.

E. V. CAREY,

Telegraphic Address: "CAREY," KLANG.

A. B. C. AND COMMERCIAL CODES.

Batocera on ~~Camponotus~~

Klang,

Selangor,

Straits Settlements, 3 m.s.

7th March 1901.

H. N. Ridley Esq
Singapore

Dear Ridley

In a cigarette tin I am sending you two beetles which, of many pests in the way of borer and caterpillar etc. that are now going for *Ficus Elastica*, is undoubtedly the most voracious. This beast completely eats up first the sealing-wax top of the shoot, then the leaves and finally the stem. I have put some fodder in the tin with them and you will be able to see how much work they have put in between this and Singapore. I only found two of the beasts, but there must be many more about, as at least twenty promising young Rembones have been completely eaten down, and I found traces of the same creature's work on Para too. It is a matter for congratulation that he appears to work by day (as well as by night?), as he

7-3-1901.

makes no attempt to escape and is easily caught, though very careful handling is advisable as he draws blood freely when he fixes on to you.

In a match box I am sending you an active little caterpillar which also feeds on the Rembong; if you want any more let me know; on another estate quite recently I found numbers of a loop caterpillar, the fellow that stiffens himself out straight and motionless, and so closely resembles a dead twig that he is very difficult to see. He is rather like the *Gardenia* loop caterpillar only thicker, and he does an awful amount of damage. The Bee Hawk cloth has been very active lately and has cost two Estates that I have, many hundreds of dollars to keep in check. Verily this is a terrible country for insect pests: I suppose it is owing to the proximity of so many thousands of acres of jungle? I am inclined to think that Kladdie or Chinese yarn brings along a lot of these things with it too.

Yours Sincerely
E. V. Carr

STRAITS SETTLEMENTS.

Paper to be laid before the Legislative Council by Command
of His Excellency the Governor.

GENERAL HOSPITAL,

Singapore, May 23rd, 1887.

SIR,—The beetles which are destructive to cocoa-nut trees in Singapore are of two species, as Mr. MEREWETHER has stated in his Report, named respectively *Oryctes nasicornis*, and *Calandra palmarum*, and they commit their ravages in totally distinct ways.

I. *Oryctes nasicornis*.—This is the common elephant, or more appropriately rhinoceros beetle, a large black or dark brown insect with a long curved horn on its head, this appendage being much more developed in the male than in the female.

The mischief done to cocoa-nut trees by this species is done by the adult insect, which feeds on the soft woody fibre in the crown of the tree. The beetle bores its way into the head of the tree, commencing generally partly under cover of the sheath of one of the leaves, and gradually eats its way into the centre of the heart, taking about four or five or more days in the process, and dividing as it goes any folded leaf or fruit-stalk which may lie in its way. When it has reached the centre of the heart, it bores no further, eats out as much as it wants, and comes out again. This beetle does not at once kill the tree, but it is very likely that trees severely attacked by several beetles may become weak, and die gradually.

The results of the ravages of this beetle are seen in deformity of the heads of trees, consequent on the cutting through of the young folded leaves. The centre shoot of the tree if cut through drops off, and leaves that have been cut through, when they unfold and grow, instead of presenting the normal appearance of a feather, are stunted and look like the ribs of a fan, or a quill-pen that has been cut across through the feather to the midrib. Fruit-stalks may also be cut through in the course of this beetle's boring to the centre of the tree, and the tree may be thus damaged in its fruit-bearing capabilities.

This beetle, I believe, invariably commences its boring in the night.

The place where one of these beetles has entered a tree may be known by the projection from its hole of entry of a lump of moist brown fibre, which the beetle throws out behind it as it bores its way. This is easy to see in a young tree, but not so easy when the tree becomes tall. If immediately on the appearance of one of these lumps of fibre the beetle is extracted, it will not have had time to do any real damage, but if the lump of fibre be unnoticed, the next sign of the presence of the beetle is, as Mr. CRANE states in his Report, the falling of the centre shoot of the tree, which has been cut through.

This beetle is very active towards the end of the year, in October and November. I believe it is also active in the early Spring months. It lays its eggs, and the grubs are hatched in decaying stumps of cocoa-nut trees, and in other places as described in the various Reports. I have only seen the grubs myself in rotten cocoa-nut stumps. The grubs are hatched certainly about November, but perhaps also at other times.

II. The *Calandra palmarum*.—This is a beetle of a totally different kind. It belongs to the Curculionidæ or Weevils. It is a beetle of a black colour, with an orange spot on its back, or is sometimes almost entirely of a dark orange colour. It has no boring apparatus, but a hard proboscis, about half an inch long, the whole length of the beetle, including proboscis, being about 2 to 2½ inches.

This beetle does not itself do any damage to the trees, the damage is done by its larva or grub. The beetle lays its eggs somewhere on the cocoa-nut tree, I have not been able to find out where, but I think either near the ground or in the neighbourhood of the head of the tree. As soon as an egg is hatched, the grub, which is armed with strong boring jaws, bores its way into the tree, and, eating as it goes, and gradu-

ally increasing in size, makes long tunnels through the wood of the tree. Of course in its wanderings it may eat through the growing part of the tree, and so kill it. When it has attained its full size, it finishes its boring quite close to the outer surface of the tree, near the head, and makes a large cocoon of the fibre of the wood, and thence when its transformation is complete, the beetle easily bursts its way out. The Malays think that the beetle bores in at the place where its cocoon is found, makes the cocoon or nest, and thence sends its grubs to bore the tree, thus reversing the real course of events.

The presence of this beetle, or rather of its grub, in a tree, can only be known by hearing it bore, or suspected from the death of the tree without obvious cause.

More information is wanted as to the Oryctes with reference to its seasons of activity, and its seasons for breeding; and as to the Calandra, with reference to its place for depositing its eggs. This place will be found to be either some crevice in the bark, or some deep spot under cover of a leaf sheath, or possibly the ground at the root of the tree.

The steps to be taken to prevent destruction of cocoa-nut trees by these insects are in my opinion as follows:—

1. All beetles of both kinds I have described should be destroyed when found. Possibly it might be advisable that the Government should offer a small reward for their destruction.

2. No dead cocoa-nut trees, or rotten stumps should be allowed to remain in or near cocoa-nut plantations, and trees not dead but irrecoverably damaged and deformed by the ravages of beetles should be cut down and burnt. It is very important that this step be insisted on in the case of natives who have perhaps a few cocoa-nut trees, of which they are utterly careless, near large plantations. It should be made penal for any one to allow a rotten cocoa-nut stump, or a dead tree, to remain on his property in the neighbourhood of other trees.

3. Careful daily inspections should be made of trees, especially young trees, in order that the entrance of the Oryctes may be seen at once, and the beetle be extracted and killed.

4. No heaps of manure, or any material known to serve as breeding ground for the Oryctes should be allowed to remain in or near cocoa-nut plantations.

5. If a tree be found to be attacked by the grub of the Calandra, it should be cut down at once and effectually destroyed, in order that all the grubs that may be in it may be killed.

Additional information on points I have alluded to above will simplify some of the remedial measures.

I have, &c.,

MAX. F. SIMON,
Acting Principal Civil Medical Officer, S.S.



It is requested that the following number be quoted in the reply to this letter.

Colonial Secretary's Office,
SINGAPORE, February, 1890.

Gardens 583 Sir

With reference to your letter of the 11th January embodying your remarks upon the report of the Special Committee of the Legislative Council on the Coconut Tree Preservation Bill, I am directed to transmit to you the enclosed copy of the amendment

The Director of the
Botanic Gardens,
Singapore.

accordance with which the
Government intend to move
when the Bill is considered
in Committee by the Council.

I have the honour to be

etc

Your obedient servant

Col. G. C. B. -

Colonial Secretary

etc

THE COCO-NUT TREES PRESERVATION BILL.

Amendment to be moved by Mr. Attorney-General.

For clause 2, substitute the following:—

“ 2. It shall be the duty of the owner or person in charge of every coco-nut tree which is dead or is attacked by the beetle secondly described in the schedule forthwith to uproot such tree and either to consume it with fire or to bury it in the ground at a depth of not less than three feet or to keep it completely submerged in water so that the beetle and all eggs and larvæ thereof may be totally destroyed and that the tree may not serve as a breeding place for any or either of the beetles in the schedule mentioned.”

Duty of owners of coco-nut trees attacked by beetles to uproot and destroy tree.

Clause 3, line 18—after the word “Forests” insert the following:—

“ or the District Officer or such other Officer as the Governor may appoint in that behalf.”

Clause 4, line 26—after “Forests” insert “or the District Officer or such other Officer as aforesaid”

Line 28—after “Director” insert “District Officer or other Officer”.

For Clause 5, substitute the following:—

5 “All Officers of the Government Gardens and Forest Department and the District Officer and his assistants and any such other officer as aforesaid shall have access at all reasonable times into and upon any land whereon any coco-nut tree is growing for the purpose of inspecting such tree and also into and upon any land or premises where there is reason to suppose that there are any such things as in the last preceding section are referred to.”

Forest officers to have access to coco-nut plantations and adjacent land.

Botanical Gardens

Singapore

Jan. 11. 1890

Sir

Have the honour to forward the following from the ~~Report~~ of the Select Committee of the Legislative Council on the Coco-nut Tree Preservation bill.

Paragraph 1. The trees killed by lightning and other causes are included in Part 4 of the bill.

The whole of the paragraph as indeed most of almost the whole report deals exclusively with the black beetle. Truly were the black beetle the only enemy. The beetle as it stands ^{would} could be much simplified. The red beetle the Committee say is rare in Penang. It is not rare here. I consider it even more dangerous than the black one.

Because while it is comparatively easy to suppress the black one, it is very much more difficult to deal with the red one, owing to its habits, & it is also much more fatal to the tree when attacked. In dealing with insect pests it is requisite to remember one great characteristic of them and that is the way in which an insect pest may not be ~~destroyed~~ ^{weakened} damage at one time & ~~be~~ seed ^{eggs} & at present quite unaccountably developing to enormous numbers and absolutely destroying the country in which it had previously ^{been} neglected. I do not consider any bill would be completely satisfactory that did not include the red beetle.

Par. 2. Topping trees at a depth of two feet is sufficient even if they do not contain any beetle larva when buried. I have found the grubs at quite a great depth in that

possibly three feet depth; if the only few trees were buried together might be safe, ^{allow for nothing of ground} ~~around the~~
As to the section suggested in place of Sect. 2, I do not
see how the owner is to destroy the eggs which are very
minute, except by charriying the tree or breaking it with
strong acid. I do not see how that any one ordinary owner
could find the eggs at all.

Sect. Par. 3. Is certainly an improvement, perhaps
the Government might appoint for a time at least
an Inspector of Coconut plantations.

Par. 4. Practically calculated to be satisfactory
in as much as it is even more sweeping in the
restriction of likely places for beetles to live in.

Containing two sections suggested in place of Sect. 2.

Sect A: seems adequate.

Sect B. appears cumbersome and difficult to carry out. Supposing
a person has a garden, which produces a certain quantity
of cut grass, dead sticks and leaves. Must he have a fence
for other rabbits, & how long ^{may} the grass is before breaking
it.

Par. 5. Is perhaps more satisfactory as it is more sweeping
~~but~~ ^{definite} and more comprehensive, ~~protecting~~ ^{protecting} ~~but~~ ^{but}
~~of the agricultural~~

Par. 6. Is perfectly true, if the red beetle is excluded
from the bill. Trees producing Coconuts may be infested
for a considerable time by the red beetle, before dying.
There was an instance of that here a short time ago.
I had ~~detected~~ the black beetle, but still red beetles

kept appearing among the palms, at length a sugar
palm which was looking a little weak & had not
grown for some weeks, was examined & upward of 50
red beetles, larvae & cocoons were found therein.

The attack had apparently gone on for some weeks, at least.
There were enough beetles there seems to be a good size plantation
^{in a very short time}
if they had been neglected.

The Perak Pomelo Moth

Nephopteryx sagittiferella, Nov. sp. Moore.

From No. 1. Vol. 2. of Indian Museum Notes.

From W. L. Gray Jr. Curator of the Perak Museum, were received in October 1890 specimens of the moth which he has found destructive to pomelos, tamarins, and lemons in Perak. The specimens were forwarded to W. F. Moore, who identified them as belonging to a new species of Phycitidae which he describes as Nephopteryx sagittiferella. The following is his description:—

"Closely allied to N. physostigmatis, Walker, described in the Proceedings of the Royal Physical Society of Edinburgh for 1869, the larva of which is stated to feed upon the "Isere" or "Ordeal Bean" of Old Calabar.

"Fore wing slightly broader, pale ferruginous, brown, the costal area and between the outer veins silvery-grey; on the discal area ^{is} a transverse curved series of elongated very acute sagittate points, which are blackish and with a greyish outer line; at the end of the outer veins is a prominent blackish pointed-dot. Hind wing also broader, pale, pinkish cinereous, silvery-grey along the anterior border (not brown, as in N. physostigmatis); veins externally, and the marginal & cilia line, brown. Body dark cinereous brown; head, thorax, palpi, antennae, fore & middle legs ferruginous.

brown; hind legs pale cinereous brown.

"Span of wings ♂ 1, ♀ $1\frac{1}{8}$ inch. Habitat. - Park."

INSECT

PESTS

38.5/29

It is requested that the following number be quoted in the reply to this letter.

No. 4 in Ent: 100/1925.



DEPARTMENT OF AGRICULTURE,

Straits Settlements

&

FEDERATED MALAY STATES.

Kuala Lumpur,

18th. June, 1925.

Dear Holttum,

The information in your letter of the 17th. is most useful. The insect was sent in from Ipoh at the beginning of last year, but was probably present there some time before, about the same time or just after it appeared at Singapore.

Whether it could have been taken from Singapore to Ipoh, or whether the outbreak was general in the country, the beast having been here all the time, is difficult to say. On the other hand it might have been brought in at both localities. Unfortunately there are scarcely any records of Coccidae in Malaya, so it will be likely to remain a mystery. The fact that the attacks are much less severe now may be due to a return to control which existed before, but we have so many general predators in Coccids that it is possible that it is the latter which are now keeping the pest under.

Yours sincerely,

B. A. R. Gater,
Ag: Government Entomologist,
S. S. & F. M. S.

The Ag: Director,
Botanic Gardens,
Singapore.

DRAFT.

(G 17)

Fair Copy signed by

To

7/6/25

SIR.

Dear Gaten,

In reply to your letter 100/25 Ent. of yesterday's date, the history of *Phenacoccus ceylonoides*, so far as I know, is as follows.

About ~~the middle of~~ July 1923 it was first brought to my notice, as attacking violently some trees at the town end of Bukit Timah Road. It was then spreading rapidly, and ~~it~~ had already travelled a long way, ~~but~~ ^{before the end of the} ~~same~~ ^{July} year extended much further, ~~which~~ ^{it} is certainly throughout the low area of Singapore.

The violence of its attack and the rapidity of its spreading seem to indicate that it must have recently arrived here not long previous to its first observation. ~~It is~~ ~~has~~ ~~been~~ ~~said~~ ~~to~~ ~~say~~ about the beginning of 1923. When I first saw it, it literally smothered all the young twigs of the trees in some localities, ~~and~~ ~~the~~ ~~inhabitants~~ ~~say~~ ~~that~~ ~~the~~ ~~plants~~ ~~are~~ ~~dead~~ ~~now~~ ~~and~~ ~~the~~ ~~leaves~~ ~~are~~ ~~fallen~~ ~~now~~ ~~and~~ ~~the~~ ~~branches~~ ~~are~~ ~~broken~~ ~~now~~. It is still to be found everywhere but I think is not so serious in its effects as formerly.

The Entomologist
Dept. of Agriculture

W.L.

430
25

posted 7/6/25

Yours sincerely
W.L.

It is requested that the following number be quoted in the reply to this letter.

DEPARTMENT OF AGRICULTURE,

Straits Settlements

(2) Sh. 100/1925 Ent.:



&

FEDERATED MALAY STATES.

Kuala Lumpur,

16th. April, 1925.

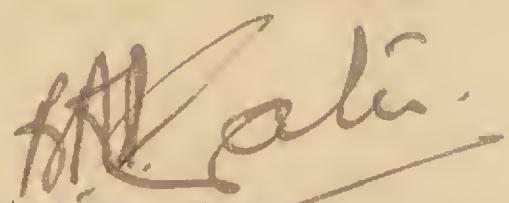
Dear Holttum,

Very many thanks for your letter of the 15th. inst. enclosing a list of food plants of Phenacoccus iceryoides, which is most interesting.

I believe you mentioned that it was thought that this insect was imported. Can you give me any details, because we had some from Ipoh a long time ago and it would be rather interesting to follow it up?

Pseudococcus bromeliae we have had before on pineapples from Johore; Alecanium hirsutum is a new record.

Yours sincerely,


B.A.R. Gater,
Ag: Government Entomologist,
S.S. & F.M.S.

The Ag: Director,
Botanic Gardens,
Singapore,
S. S.

Imperial Bureau of Entomology

Head Office at—

Director :

GUY A. K. MARSHALL, C.M.G., D.Sc., F.R.S.

Assistant Director :

S. A. NEAVE, D.Sc.

BRITISH MUSEUM (NATURAL HISTORY),

CROMWELL ROAD, LONDON, S.W. 7

422
18/6/25

20th May, 1925.

Dear Sir,

I have to acknowledge the receipt of your letter of the 26th February, and regret that it has taken some time to secure the identifications of the various Coccidae which you then sent us. These have now been identified by Mr. F. Laing, and I enclose a list of the names. In the great majority of cases the insect proved to be Phenacoccus iceryoides which seems to have secured a fairly wide hold on your vegetation. We are very glad to be able to secure records of all these various host-plants.

Thanking you for the material you have kindly sent us.

I remain,

Yours very truly,

List No. 346 (Asia).

Director.

J. H. Burkhill, Esq.,
Director,
Botanic Gardens,
Singapore.

B8.5/33

Coll. No. 2792.

IMPERIAL
BUREAU
OF ENTOMOLOGY

List No. 346 (Asia).

18.v.1925.

Identification of Coccidae
From SINGAPORE
Submitted by
The Director of the Botanic Gardens.

R H Y N C H O T A.

COCCIDAE.

Pseudococcus bromeliae, Bché. - on Caryota urens.

Alecanium hirsutum, Morrison - on Dialium ? Laurinum.

Palaeococcus sp. or Icerya sp. (young specimens, not identifiable)
- on Uvaria rufa.

Phenacoccus iceryoides, Green - on Vitex pubescens.

Phenacoccus iceryoides, Green - on Podocarpus australis.

Phenacoccus iceryoides, Green - on Bignonia magnifica.

Phenacoccus iceryoides, Green - on Pithecellobium saman.

Phenacoccus iceryoides, Green - on Glaoxylum indicum.

Phenacoccus iceryoides, Green - on Ahras sapota.

Phenacoccus iceryoides, Green (young specimens) - on Phyllanthus
sp.

Phenacoccus iceryoides, Green - on Ficus alba.

Phenacoccus iceryoides, Green - on Poinciana regia.

Phenacoccus iceryoides, Green - on Cassia fistula.

Fair Copy signed by

15/1/35

To

STR.

Dear Gair,

At sometime ^{ago} Mr. Burnell

sent a number of specimens of
coccids in spirit to the Imperial
Bureau of Entomology. They were
identified by Mr. F. Loring, and
proved to be principally
Phenacoccus incisus. It may
interest you to have a copy of
the list, which I attach,
for the sake of the information
which it gives as to the
omnivorous habits of the
beast in question.

I ~~do~~ think a few duplicates were
kept here. Yours sincerely

L.M.

Please type a copy of the list attached

K.L.H.

DRAFT.

Fair Copy signed by

15/11/20

To

Dear SIR,

I have to acknowledge with
my thanks the receipt of your
letter of May 25th. with list of
identifications of Coccoidea (list no. 306
(cont))

Yours faithfully

H. B.
Z.

The Director
Natural History
British Museum
Cromwell Road
London SW. 7.

H. B.
Z.

Botanic Gardens, Penang

October 9, 1925

Dear Mr. Holttum,

Many thanks for sending me the two parts of GOEBEL'S ORGANOGRAPHY.

We are having here an unusually wet weather which began with a very severe storm on last Sunday evening. Fortunately it did very little damage in the Gardens, though the Water-Reservoir up in the Gardens was very badly damaged so as necessitate its immediate emptying and repairing. On Monday last when the storm had almost subsided, the black monkeys PRESBYTES OBSCURUS braved to come openly in the Gardens and parasitize on the Albizia moluccana in lawn E. them plucking I watched them for sometime and noticed them plucking out the leaves and eating the bases of their stalks which are tender and fleshy. I didn't observe them eating branch-tips as recorded by Mr. Burkhill in his last years report. ~~in~~ I examined some twigs and found their tips intact. Probably later on when the leaves are scarce they eat branch-tips to satisfy their hunger.

I have posted ~~in~~ yesterday two parcels of specimens for mounting. I suggest the specimens be thoroughly poisoned more than once as we have nobody here who understands that sort of work properly.

Please send some cover-sheets for our Herbarium specimens here, as without them the mounted specimens are liable to damaged soon.

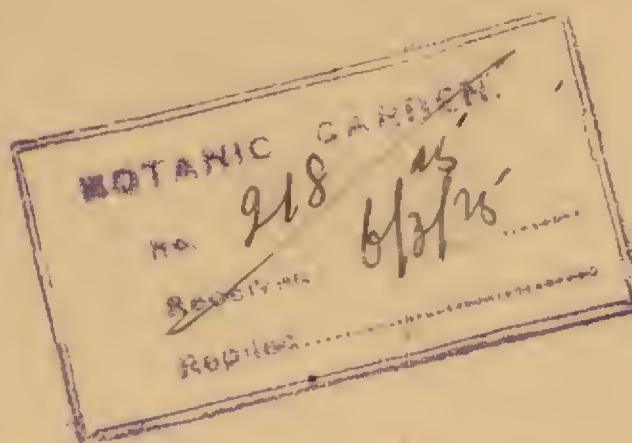
There are recorded in Ridley's Flora many plants from Penang which we have not in Penang Herbarium. Are there no duplicates of these in Singapore which could be spared for us, I wonder?

Yours sincerely

Effurah

It is requested that the following number be quoted in the reply to this letter.

No. 2 in Ent. 54/1925.



DEPARTMENT OF AGRICULTURE,

STRAITS SETTLEMENTS

&

FEDERATED MALAY STATES.

5th. March, 1925.

Dear Holtum

Many thanks for the scale insects on *Aphelandra*, which arrived safely. They appear to be *Saissetia hemisphaericum*, Targ. which is common in this country, and among a great number of other plants attacks coffee, cinchona, tea, gardenia, guava, loranthus and bamboo. It was not, therefore, imported with the plant.

The other scale which I collected on *Crocosmia*, *Cleodendron*, *Thunbergia*, *Tinea* and other plants (the one with the long wax "tail") appears to be *Orthezia insignis*, Dougl. which is also almost omnivorous. It is not mentioned in the Dutch literature, so was probably imported from Ceylon.

The latter insect is particularly resistant to insecticides, but I should try a well made kerosene emulsion (kerosene 2 gallons., soap $\frac{1}{2}$ lb. water 1 gall) diluted 1 : 10.

Yours sincerely,

B.A.R. Gater,
Ag: Government Entomologist,
S.S. & F.M.S.

Ag: Director of Gardens,

S.S.

Singapore.

Mr. Gater,
Please see R.M.

Scn. ~~60~~

6.3.25.

1385/38